

plurality of remote stations, the broadcast common-synchronization channel having a frame-timing signal;

receiving at a first RS-spread-spectrum receiver the broadcast common-synchronization channel, and determining frame timing at said first RS-spread-spectrum receiver from the frame-timing signal;

transmitting from a first RS-spread-spectrum transmitter an access-burst signal, the access-burst signal having a plurality of segments, with the plurality of segments having a plurality of power levels, respectively;

receiving at said BS-spread-spectrum receiver the access-burst signal at a detected-power level;

transmitting from said BS-spread-spectrum transmitter to said first RS-spread-spectrum receiver, responsive to the access-burst signal, an acknowledgment signal;

receiving at said first RS-spread-spectrum receiver the acknowledgment signal; and

transmitting from said first RS-spread-spectrum transmitter, responsive to the acknowledgment signal, to said BS-spread-spectrum receiver, a spread-spectrum signal having data.

6. An improvement to a code-division-multiple-access (CDMA) system employing spread-spectrum modulation, with the CDMA system having a base station (BS) and a plurality of remote stations (RS) with each remote station having an RS-spread-spectrum transmitter and an RS-spread-spectrum receiver, the

improvement comprising:

10 a BS-spread-spectrum transmitter located at said base station, for transmitting a broadcast common-synchronization channel having a common chip-sequence signal common to the plurality of remote stations, the broadcast common-synchronization channel having a frame-timing signal;

15 a first RS-spread-spectrum receiver, located at a first remote station of the plurality of remote stations, for receiving the broadcast common-synchronization channel, and determining frame timing at said first RS-spread-spectrum receiver from the frame-timing signal;

20 a first RS-spread-spectrum transmitter, located at said first remote station of said plurality of remote stations, for transmitting an access-burst signal, the access-burst signal having a plurality of segments, with the plurality of segments having a plurality of power levels, respectively;

said BS-spread-spectrum receiver for receiving the access-burst signal at a detected-power level;

25 said BS-spread-spectrum transmitter for transmitting to said first RS-spread-spectrum receiver, responsive to receiving the access-burst signal, an acknowledgment signal;

said first RS-spread-spectrum receiver for receiving the acknowledgment signal; and

said first RS-spread-spectrum transmitter, responsive to the acknowledgment signal, for transmitting to said BS-spread-spectrum receiver, a spread-spectrum signal having data.

1. An improvement to a code-division-multiple-access (CDMA) system employing spread-spectrum modulation, with the CDMA system having a first base station (BS) with a first BS-spread-spectrum transmitter and a first BS-spread-spectrum receiver, a second base station with a second BS-spread-spectrum transmitter and a second BS-spread-spectrum receiver, and a plurality of remote stations, with each remote station (RS) having an RS-spread-spectrum transmitter and an RS-spread-spectrum receiver, the method comprising the steps of:

transmitting from said first BS-spread-spectrum transmitter located at said first base station, a first broadcast common-synchronization channel having a first common chip-sequence signal common to the plurality of remote stations, the first broadcast common-synchronization channel having a first frame-timing signal;

transmitting from said second BS-spread-spectrum transmitter located at said second base station, a second broadcast common-synchronization channel having a second common chip-sequence signal common to the plurality of remote stations, the second broadcast common-synchronization channel having a second frame-timing signal;

receiving at a first RS-spread-spectrum receiver the first broadcast common-synchronization channel, and determining a first frame timing at said first RS-spread-spectrum receiver from the first frame-timing signal;

receiving at the first RS-spread-spectrum receiver the second broadcast common-synchronization channel, and determining

a second frame timing at said first RS-spread-spectrum receiver from the second frame-timing signal;

30 determining, based on any of power levels and probabilities of error, at said first RS-spread-spectrum receiver, from the first broadcast common-synchronization channel and from the second broadcast common-synchronization channel, to transmit to said first base station;

35 transmitting from a first RS-spread-spectrum transmitter to said first base station, a first access-burst signal;

receiving at said first BS-spread-spectrum receiver the first access-burst signal at a first detected-power level;

40 transmitting from said first BS-spread-spectrum transmitter to said first RS-spread-spectrum receiver, responsive to the first access-burst signal, a first acknowledgment signal;

45 receiving at said first RS-spread-spectrum receiver the first acknowledgment signal; and

transmitting from said first RS-spread-spectrum transmitter, responsive to the first acknowledgment signal, to said first BS-spread-spectrum receiver, a first spread-spectrum signal having data.

8. The improvement as set forth in claim 7, further including the step of transmitting from said first BS-spread-spectrum transmitter, any of data and power-control information, to said RS-spread-spectrum receiver.

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~~8~~. The improvement as set forth in claim ~~8~~¹, further including the step of transmitting from said first RS-spread-spectrum transmitter, any of data and ~~power~~ control information, to said BS-spread-spectrum receiver.

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~~10~~. The improvement as set forth in claim ~~7~~¹ with the step of transmitting from the first RS-spread-spectrum transmitter the first access-burst signal, including the step of transmitting the first access-burst signal with a first plurality of segments having a first plurality of power levels increasing sequentially, respectively.

11. The improvement as set forth in claim 10, further including the step of transmitting from said first BS-spread-spectrum transmitter, any of data and power-control information, to said RS-spread-spectrum receiver.

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~~12~~. The improvement as set forth in claim ~~7~~¹, further including the steps of:

determining, based on any of power levels and probabilities of error, at said first RS-spread-spectrum receiver, from the first broadcast common-synchronization channel and from the second broadcast common-synchronization channel, to transmit to said second base station;

transmitting from the first RS-spread-spectrum transmitter to said second base station, a second access-burst signal;

receiving at said second BS-spread-spectrum receiver
the second access-burst signal at a second detected-power level;

transmitting from said second BS-spread-spectrum
transmitter to said first RS-spread-spectrum receiver,
responsive to the second access-burst signal, a second
acknowledgment signal;

receiving at said first RS-spread-spectrum receiver
the second acknowledgment signal; and

transmitting from said first RS-spread-spectrum
transmitter, responsive to the second acknowledgment signal, to
said second BS-spread-spectrum receiver, a second spread-
spectrum signal having data.

13. The improvement as set forth in claim 12, further
including the step of transmitting from said second BS-spread-
spectrum transmitter, any of data and power-control information,
to said RS-spread-spectrum receiver.

14. The improvement as set forth in claim 13, further
including the step of transmitting from said second RS-spread-
spectrum transmitter, any of data and power-control information,
to said BS-spread-spectrum receiver.

15. The improvement as set forth in claim 12 with the step
of transmitting from the first RS-spread-spectrum transmitter
the second access-burst signal, including the step of

transmitting the second access-burst signal with a second plurality of segments having a second plurality of power levels increasing sequentially, respectively.

16. The improvement as set forth in claim 14, further including the step of transmitting from said second BS-spread-spectrum transmitter, any of data and power-control information, to said RS-spread-spectrum receiver.

17. The improvement as set forth in claim 16, further including the step of transmitting from said second RS-spread-spectrum transmitter, any of data and power-control information, to said BS-spread-spectrum receiver.

18. An improvement to a code-division-multiple-access (CDMA) system employing spread-spectrum modulation, with the CDMA system having a first base station (BS), a second base station, and a plurality of remote stations (RS) with each remote station having an RS-spread-spectrum transmitter and an RS-spread-spectrum receiver, the improvement comprising:

a first BS-spread-spectrum transmitter located at said first base station, for transmitting a first broadcast common-synchronization channel having a first common chip-sequence signal common to the plurality of remote stations, the first broadcast common-synchronization channel having a first frame-timing signal;

a second BS-spread-spectrum transmitter located at

15 said second base station, for transmitting a second broadcast
common-synchronization channel having a second common chip-
sequence signal common to the plurality of remote stations, the
second broadcast common-synchronization channel having a second
frame-timing signal;

20 a first RS-spread-spectrum receiver, located at a
first remote station of the plurality of remote stations, for
receiving the first broadcast common-synchronization channel,
and determining first frame timing at said first RS-spread-
spectrum receiver from the first frame-timing signal;

25 said first RS-spread-spectrum receiver for receiving
the second broadcast common-synchronization channel, and
determining a second frame timing at said first RS-spread-
spectrum receiver from the second frame-timing signal;

30 means, based on any of power levels and probabilities
of error, located at said first RS-spread-spectrum receiver, for
determining from the first broadcast common-synchronization
channel and from the second broadcast common-synchronization
channel, to transmit to said first base station;

35 a first RS-spread-spectrum transmitter, located at
said first remote station of said plurality of remote stations,
for transmitting a first access-burst signal;

said first BS-spread-spectrum receiver for receiving
the access-burst signal at a detected-power level;

said first BS-spread-spectrum transmitter for
transmitting to said first RS-spread-spectrum receiver,
responsive to receiving the first access-burst signal, a first

acknowledgment signal;

said first RS-spread-spectrum receiver for receiving the first acknowledgment signal; and

said first RS-spread-spectrum transmitter, responsive to the first acknowledgment signal, for transmitting to said first BS-spread-spectrum receiver, a first spread-spectrum signal having data.

19. The improvement as set forth in claim 18, with said first BS-spread-spectrum transmitter for transmitting any of data and power-control information, to said RS-spread-spectrum receiver.

20. The improvement as set forth in claim 19, with said first RS-spread-spectrum transmitter for transmitting any of data and ~~power~~-control information, to said BS-spread-spectrum receiver.

21. The improvement as set forth in claim 20 with said first RS-spread-spectrum transmitter for transmitting the first access-burst signal with a first plurality of segments having a first plurality of power levels increasing sequentially, respectively.

22. The improvement as set forth in claim 18, with said first BS-spread-spectrum transmitter for transmitting any of data and power-control information, to said RS-spread-spectrum

receiver.

23. The improvement as set forth in claim 22, with said first RS-spread-spectrum transmitter for transmitting any of data and power-control information, to said BS-spread-spectrum receiver.

¹⁰24. The improvement as set forth in claim ⁷18, further including:

5 said means for determining, based on any of power levels and probabilities of error, at said first RS-spread-spectrum receiver, from the first broadcast common-synchronization channel and from the second broadcast common-synchronization channel, to transmit to said second base station;

10 said first RS-spread-spectrum transmitter for transmitting to said second base station, a second access-burst signal;

said second BS-spread-spectrum receiver for receiving the second access-burst signal at a second detected-power level;

15 said second BS-spread-spectrum transmitter for transmitting to said first RS-spread-spectrum receiver, responsive to the second access-burst signal, a second acknowledgment signal;

said first RS-spread-spectrum receiver for receiving the second acknowledgment signal; and

said first RS-spread-spectrum transmitter, responsive

to the second acknowledgment signal, for transmitting to said second BS-spread-spectrum receiver, a second spread-spectrum signal having data.

25. The improvement as set forth in claim 24, with said second BS-spread-spectrum transmitter for transmitting any of data and power-control information, to said RS-spread-spectrum receiver.

M 26. The improvement as set forth in claim 25, with said second BS-spread-spectrum transmitter for transmitting any of data and power-control information, to said RS-spread-spectrum receiver.

27. The improvement as set forth in claim ¹¹~~24~~ with said first RS-spread-spectrum transmitter for transmitting the second access-burst signal with a second plurality of segments having a second plurality of power levels increasing sequentially, respectively.

28. The improvement as set forth in claim 27, with said second BS-spread-spectrum transmitter for transmitting any of data and power-control information, to said RS-spread-spectrum receiver.

29. The improvement as set forth in claim ¹⁰~~28~~, with said second RS-spread-spectrum transmitter for transmitting any of